

Product Brief

Intel® Value Solid State Drive



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Innovative, cost-effective storage solution that improves performance

Intel® Value Solid State Drives (VSSD) enhance the user experience. Faster boot times, quicker suspend/resume, and rapid application response redefine how users interact with computing and embedded platforms.



Product Overview

Building on two decades of experience in non-volatile memory, Intel is now integrating NAND Flash Memory with standard USB interfaces to create the Intel® Z-U130 Solid State Drive (VSSD).

Intel VSSD delivers a total solution with prices below the floor cost of traditional hard disc drives (HDDs). Lower storage cost, coupled with performance and time-to-market advantages, make Intel VSSD an innovative choice for new applications and use models that require modest capacity.

Performance Benefits

Mechanical latencies in moving-head drives continue to hinder many operations. Locating boot code, operating systems, and commonly accessed libraries on a high-speed, high-density USB SSD improves random file access speed by 22x.

With unique Intel NAND Flash Memory features—Dual-plane Mode and Cache Mode—the Intel VSSD moves data at an unmatched read/write rate of 28/20 MB per second. A mean time between failure Rate of 5 Mh (million hours) delivers the durability you need for real-world applications.

Product Flexibility

With a broad range of densities, and support for multiple operating systems, Intel provides the flexibility needed for a wide array of applications. Small, frequently used files or even an entire operating system can be stored in the VSSD. And, the optional low-profile of the VSSD integrates easily into small footprint systems.

Power Consumption Reduction

Without moving parts or refresh demands, Intel VSSDs typically require only 70mA of power to read data, extending battery life beyond that of standard HDDs and other USB options.

Time-to-Market Advantages

Most chipsets and platforms already support USB, whereas integrating complex or proprietary technologies delays development. Using a known, proven interface speeds design and time-to-market.

Innovative Storage Applications

Low-cost Storage

- Lower floor cost than HDDs for low-cost PCs and emerging market computing platforms

Boot Time Enhancement

- Boot code loads faster from SSD devices
- USB is already a defined boot device in most boot sequencers, including modern BIOS code

Embedded Code Storage

- High-density storage, from 1GB to 4GB, holds an entire operating system
- Low-profile integrates easily into small footprints for on-board applications

Rapid Access Cache

- Commonly used libraries and files are accessed more quickly from high-speed, non-volatile memory

- Locating page files on an SSD improves small-file access time and enables faster resume from suspended states

Low-power Storage

- Solid state memory eliminates moving parts, reducing power consumption
- Non-volatile memory does not require constant refreshing, decreasing power use compared to DRAM

Industry Leadership

Intel is committed to the adoption of NAND-based technologies. Drawing on more than 20 years of industry-leading expertise in flash memory, we are defining product solutions that match density and technology to emerging customer needs. We are integrating NAND into Intel architecture computing platforms, where performance gains and longer battery life will enhance the user experience.

To support NAND growth, Intel will quickly ramp multiple state-of-the-art 300mm manufacturing facilities over the next several years.

Technical Specifications¹

Model Name	Intel® Z-U130 Solid State Drive
Densities	1GB, 2GB, 4GB
Interface	Embedded Interface - USB 2.0 and USB 1.1 compliant
Dimensions (H x W x D)	36.9 x 26.6 x 5.88mm (low profile) - 36.9 x 26.6 x 9.6mm (standard)
Weight	10 grams
RoHS Compliant	Yes
Mean-Time Between Failures	5,000,000 hours MTBF ¹
Read Throughput	28 MB / second
Write Throughput	20 MB / second
IOPS (I/O Operations per Second)	100 (4KB random 2 Read + 1 Write)
Power Consumption ²	65mA Idle (typical), 80mA Active (typical)
Operating Voltage	5 volts
Operating Temperature	0° C to +70° C
Humidity Non-Operating	5% to 95% RH non-condensing (at temperatures 25°C to 80°C)

¹ See datasheet for complete specifications, ² Sampled not tested.

For more information, visit www.intel.com/design/flash

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